



Horse Feeding Management

Feed Sampling and Analysis

Horse owners should routinely evaluate the nutrient content of their horses' feed. Learning how to interpret feed analysis reports will help you understand the actual nutrient content of feeds and develop balanced, cost-effective diets. Consult your county Extension agent for additional information.

Feed analysis services are provided by state departments of agriculture, feed companies, and commercial laboratories. Feed analysis will help you:

- Increase the accuracy of feed formulations.
- Monitor the accuracy of feed mixing services.
- Identify the quality of feed ingredients.
- Identify inadequate rations before damage occurs.
- Maintain a cost-effective feeding program.

It can also help equine professionals diagnose nutrition-related diseases. An accurate feed analysis depends upon obtaining and properly handling a representative feed sample. The procedures and definitions described here will help you obtain a proper sample and interpret an analysis report.

Laboratory Procedures

Laboratory analysis includes conventional *wet chemistry* analysis, which involves drying and burning procedures prescribed by the Association of Official Analytical Chemists (AOAC) to determine the major chemical components in a feedstuff. This method is based on sound chemical and biochemical principles. More recent advances to the chemical analysis include the *Van Soest system* of cell-wall evaluation of feedstuffs. This

system more efficiently partitions out the energy derived from fiber than the earlier crude fiber estimates. Most feed-testing laboratories use the Van Soest system for fiber determination and the *proximate analysis* (an analysis of the feed's components) to determine:

- dry matter content (100 percent minus the moisture content)
- crude protein
- mineral analysis
- digestible energy (calculated from equations)
- crude fat
- nonstructural carbohydrates

North Carolina Feed Testing Service

A complete feed analysis service is provided by the North Carolina Department of Agriculture and Consumer Services (NCDA&CS). North Carolina county Cooperative Extension offices maintain a supply of NCDA&CS feed testing forms, which can also be found online at <http://www.ncfeedandforage.com>. The information sheet must be completed as accurately as possible. The sample, along with the \$10 analysis fee, should be sent to the NCDA&CS, Food and Drug Protection Division, Forage Testing Laboratory, 1070 Mail Service Center, Raleigh, NC 27699-1070 (919-733-7366).

Copies of the feed analysis will be returned to you, your county Cooperative Extension livestock agent (if you indicated a need for Extension assistance

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